

P a t e n t c l a i m s

1.

An end termination means for tension legs (10; 10') of non-metallic materials like
5 composite material, which tension leg (10; 10') is constructed of a number of strands
(5;5', 6) that constitute the load carrying elements of the tension leg (10; 10'), which
strands (5;5', 6) are twisted (laid) about the longitudinal axis of the tension leg (10; 10')
by a predetermined laying length and each strand (5;5', 6) is in turn constructed of a
plurality of rods (7;7') of composite material having embedded strength fibres where the
10 rods (7;7') are twisted about each other like in a wire rope, and the strands (5;5', 6)
terminate near a receiving body (16) having connecting means and a number of
through-going apertures enclosing the respective strands, characterised in that each
strand (5;5', 6) is passed through respective aperture (8) in the receiving body (16)
without being fixed therein, that each strand (5;5', 6) has a free end terminating some
15 distance above the receiving body (16), and that the free end of each strand (5;5', 6) is
fixed to and enclosed by a terminating sleeve (9) having a diameter larger than a
corresponding aperture (8) in the receiving body (16), which terminating sleeve (9) is
loosely resting on or abutting the receiving body (16).

20 2.

The end termination means according to claim 1, characterised in that the terminating
sleeve (9) is internally tapered in a direction towards the receiving body (16).

3.

25 The end termination means according to claim 1 or 2, characterised in that a guiding
sleeve (11) is arranged within each aperture (8) of the receiving body (16).

4.

30 The end termination means according to claim 3, characterised in that the guiding
sleeve (11) is shorter than the length of the aperture (8) of the receiving body (16).

5.

The end termination means according to claim 4, **characterised in that** the guiding sleeve (11) is arranged within the aperture (8) close to the entrance of the strands (5;5', 6) into the receiving body (16).

6.

The end termination means according to any of the claims 1-5, **characterised in that** each aperture (8) through the receiving body (16) terminates in a concentric recess (12) for receipt of and to act as a guide and seat for the terminating sleeve (9).

7.

The end termination means according to claim 6, **characterised in that** each recess (12) has a depth (B) that is longer than the distance (A) that a terminating sleeve (9) is able to move out of the receiving body (16).

8.

The end termination means according to any of the claims 1-7, **characterised in that** the end termination (15) comprises an embracing element (17) that is spaced apart from the receiving body (16) and keeps the strands (5;5', 6) together, that between the embracing element (17) and the receiving body (16) the strands (5;5', 6) extend less radial restriction and in a substantially natural direction towards and into the apertures (8) of the receiving body (16).

9.

The end termination means according to claim 8, **characterised in that** the receiving body (16) acts as a gathering element for the strands (5;5', 6) between the embracing element (17) and the terminating sleeve (9).

10.

The end termination means according to any of the claims 1-9, **characterised in that** the apertures (8) of the receiving body (16) are somewhat inclined relative to the longitudinal axis of the tension leg (10) and the inclination corresponds to the natural

direction of the strands (5;5', 6) between the embracing element (17) and the terminating sleeves (9).

11.

- 5 The end termination means according to any of the claims 1-10, **characterised in that** the end termination (15) comprises an external rigid sleeve (18) fixed at one end thereof to the receiving body (16) and in its other end to the embracing element (17).

12.

- 10 The end termination means according to any of the claims 1-11, **characterised in that** the receiving body (16) on its external surface has at least one annular groove (16a) for engagement with at least one first annular rib (21a) on a connecting part (21) that is connected to a connecting point (20).

15 13.

- A coupling for use between an end termination and a connecting point according to claim 12, **characterised in that** the connecting point (20) has at least one external annular groove (20a) for engagement with at least one second annular rib (21b) arranged on the connecting part (21) a distance apart from the at least one first rib (21a),
20 which connecting part (21) is radially fixed by an upper and lower embracing connecting part (22a, 22b).

14.

- A coupling for use between an end termination and a connecting point according to
25 claim 13, **characterised in that** an upper and lower radially outer surface (21c, 21d) on the connecting part (21) has an upward directed conical form and an upper and lower radially inner surface (22c, 22d) on the respective embracing connecting parts (22a, 22b) has complementary conical form.

30 15.

- A coupling according to claim 13 or 14, **characterised in that** the connecting parts (20a, 22b) comprise respective pin screws (23a, 23b) for temporary fixation of the

connecting parts (22a, 22b) to the connecting point (20) and the receiving body (16) respectively.